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19 August 1963

**Declass Review by
NIMA/DOD**

MEMORANDUM FOR: Chairman, Technical Development Committee

THROUGH : Executive Secretary, TDC

SUBJECT : Staff Study - [REDACTED] Proposal #MW-N-2; Year's
25X1A Assignment of [REDACTED] to
NPIC/P&DS 25X1A

1. PROBLEM:

The Exploratory Development Laboratory Branch (EDLB) of P&DS has been effectively staffed for approximately one month. In that time it has become apparent that the major effort for the next several months will be the procurement of the necessary test and experimental equipment, the establishment of operating and calibrating procedures, and the complete familiarization of the staff with those operations and personnel of NPIC for whose ultimate benefit these facilities are being set up. The EDL staff, which represents several areas of technical specialization, will therefore be able to devote only part of its efforts in the exploration of the several problem areas of immediate importance. Further, there are several more essentially practical projects whose prosecution is required to provide bases for contractual decisions. Those must necessarily take staff precedence.

The initial technical considerations chosen for this group relate to the determination and handling of modulation transfer functions. The purpose is two-fold. In addition to obtaining data on new photographic and optical elements and the verification and experimental use of the old or current, the development of a simplified technique of system analysis (through the transfer function) will be a significant aid in the practical evaluation of proposals and project reports by the Development Branch. The first part of this problem is mainly one of equipment and the establishment of routines; the second, of study and distillation of the mathematical and physical fundamentals.

A related problem is that of locating a photographic edge. In order to fully realize the inherent precision of microdensitometry for measurement, the edge-location must be known within at least the instrument precision. The edge location is directly related to edge shape, which in turn is irretrievably tied to the modulation transfer characteristics of the photo-optical systems involved.

In view of the immediacy of the basic problems, and the cited inavailability of the EDLB staff for the next several months, it would be particularly useful to have the temporary services of a full-time, "resident" engineer or scientist who would have no administrative duties nor be involved in the procurement and "cranking-up" exercises. He could be assigned

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from industry, on a loan basis for a given period of time. He would work in a single problem area at first, gradually generalizing as the staff became more available and the equipment and facilities operational. He would eventually be phased-out and released when the staff members were fully relieved of their initial administrative responsibilities and could carry out the exploratory investigations within their specialties.

2. FACTS:

25X1A a. The minimum period of employment necessary to achieve useful
25X1A results would be approximately 12 months. [REDACTED] proposes to assign
[REDACTED] (of their organization) for this period, subject to periodic
recall for orientation purposes. The cost of the program is approximately
25X1A [REDACTED] for the year's period. A question of conflict-of-interest must
25X1A additionally be settled prior to his release from [REDACTED]

25X1A b. [REDACTED] is well qualified to work on the problem of modulation
transfer determination and application. He has published several technical
articles (one currently pending) on this subject and is known and respected
throughout the photo-optical community. He is qualified for, and interested
in the optimizing of processing solutions for film-developer combinations,
and has published work in that area also.

25X1A c. [REDACTED] has I & O clearances. He will require T, KH, SI, C, and
A clearances not only to properly carry out his intended work but for NPIC
to derive the maximum benefit from his services.

25X1A d. [REDACTED] is primarily an experimentalist. As such his advice and
assistance in selecting and operating some of the basic equipment presently
under consideration would be invaluable.

25X1A e. Having worked at NPIC, [REDACTED] would have a broader understanding
25X1A of its technical problems. He could thus be of further service upon return
to [REDACTED] in that his understanding could be translated into more
meaningful proposals from that quarter.

3. CONCLUSIONS:

25X1A

a. The assignment of [REDACTED] to the EDLB for the period of one
year would greatly benefit NPIC, insofar as the problems he would consider
have an immediate, basic relevancy. Residual benefits of having so well-
informed a person in industry would be realized, later, in the submission
of more meaningful proposals from his company, together with his continued
interest and occasional consultation.

25X1A b. [REDACTED] assignment would assist the EDLB in "getting on its
feet" technically, while the staff members are necessarily restricted to
administrative and hardware-oriented matters.

4. RECOMMENDATIONS:

25X1A a. That NPIC accept the provisions of the subject proposal (including an administrative and legal review to iron-out the conflict-of-interest and similar contract provisos) and contract for the temporary services of Mr. [REDACTED] as a full-time "resident" scientist; that he be given the clearances necessary to make his work meaningful to NPIC.

b. That NPIC consider the continuance of this type of technical contract employment as a matter of policy, and seek assignment of technically-qualified personnel periodically, from various interested industrial organizations. The immediate and residual benefits to NPIC are sufficiently obvious.

25X1A

[REDACTED]

Chief,
Exploratory Development Laboratory Branch